

ABSTRACT OF DISCLOSURE

Arrangements, apparatus and associated methods are described for use in a multi-frequency boring tool locating system. The boring tool includes a transmitter for transmitting a locating signal at two or more selectable frequencies. One set of above ground procedures may be applied to the transmitter in order to change the frequency of the boring tool transmitter. Another set of procedures is applicable for changing the frequency during below ground drilling operations, for example, by subjecting the boring tool to a predetermined roll orientation sequence. An enhanced portable locator operates in a manual or automatic mode to receive locating frequency information transmitted from the boring tool transmitter including frequency updates. Boring tool transmitter, as well as above ground locator shutdown/restart procedures are described relating to multi-frequency operation. A tone detector is described which implements one or more digital match filters.

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